US005915127A

# United States Patent [19]

## Ogawa et al.

[11] Patent Number: 5,915,127

[45] Date of Patent: Jun. 22, 1999

[54] **SYSTEM FOR FAST DATA TRANSFER UTILIZING SEPARATION OF TRANSFER DATA HEADER AND SUBSTANTIALLY CONTINUOUSLY READING AND PROCESSING TRANSFER DATA BASED ON READ HEADER**

[75] Inventors: **Hitoshi Ogawa; Hideo Makabe**, both of Kasugai, Japan

[73] Assignee: **Fujitsu Limited**, Kanagawa, Japan

[21] Appl. No.: **08/769,532**

[22] Filed: **Dec. 19, 1996**

[30] **Foreign Application Priority Data**

Feb. 29, 1996 [JP] Japan ..................................... 8-043646

[51] **Int. Cl.**$^6$ ............................. G06F 13/38; G06F 13/42
[52] **U.S. Cl.** ........................... 395/878; 395/280; 395/293; 395/307; 370/60
[58] **Field of Search** ..................................... 395/307, 293, 395/280, 821, 878, 872; 370/60

[56] **References Cited**

### U.S. PATENT DOCUMENTS

| | | | |
|---|---|---|---|
| 4,617,564 | 10/1986 | Yoshioka | 340/798 |
| 5,128,931 | 7/1992 | Yamanaka et al. | 370/60 |
| 5,263,024 | 11/1993 | Kumaki et al. | 370/94.1 |
| 5,291,486 | 3/1994 | Koyanagi | 370/84 |
| 5,497,404 | 3/1996 | Grover et al. | 375/357 |
| 5,524,054 | 6/1996 | Spille | 381/18 |
| 5,526,495 | 6/1996 | Shibata et al. | 395/307 |
| 5,758,089 | 5/1998 | Gentry et al. | 395/200.64 |

### FOREIGN PATENT DOCUMENTS

| | | |
|---|---|---|
| 41 22 831 A1 | 1/1992 | Germany . |
| WO 94/07196 | 3/1994 | WIPO . |

### OTHER PUBLICATIONS

"Fire, Fibre, SSA", Schnurer, in c't, No. 6, 1995, pp. 126–134.

*Primary Examiner*—Thomas C. Lee
*Assistant Examiner*—Rehana Perveen
*Attorney, Agent, or Firm*—Nikaido Marmelstein Murray & Oram, LLP

[57] **ABSTRACT**

A data processing apparatus suitable for fast processing of a large amount of data provides continuous and real-time reproduction of moving pictures that have a reality to them. In one embodiment, the data processing apparatus includes: a first memory for receiving and storing first transfer data supplied from an external device in a first transfer mode for transferring data in a predetermined cycle; a second memory for receiving and storing second transfer data supplied from the external device in a second transfer mode, the second transfer mode transfers the second transfer data using a remaining time resulting from exclusion of a time needed for transfer of the first transfer data from the predetermined cycle; a first interface for receiving the first transfer data read from the first memory and outputting the first transfer data; and a second interface for receiving the second transfer data read from the second memory and outputting the second transfer data.

**12 Claims, 11 Drawing Sheets**